



## **Reprojecting in ArcView 9.X**

Typically one of the first issues to resolve when obtaining data from an outside source is determining what projection the data is in and reprojecting it if needed.

Luckily, ArcGIS 9.X re-projects data on-the-fly.

The project on-the-fly feature of 9.X is slightly misleading since it doesn't actually permanently change the projection file of layers but simply calculates the projection change.

This allows layers in a map project from multiple projections to overlay properly.

For display purposes or simple map production data re-production may not be necessary.

Why then reproject?

The answer lies in understanding projections or more importantly the limitations and problems of each projection.

The example I'll give is Idaho Transverse Mercator (IDTM).

This projection's Central Meridian runs down the middle of the State at 114° longitude.

This means the resulting representation of data is the most accurate along this line and data are the most skewed or distorted at the east and west edges.

The current Standards for the State of Idaho are IDTM for statewide data and State Plane for county data.

When you are editing your spatial data it becomes important to reproject.

You don't want to use distorted data from an IDTM projection when conducting work at a county extent.

When you obtain data from someone, always ask what projection the data is in if no metadata is provided.

If you are getting a shape file make sure you are given the .prj file too.

The .prj file contains the projection information for shape files and reprojecting with ArcToolbox is simple when the correct .prj file is available.

If no projection is assigned to the data and you know it was created in a certain projection you will need to define the projection before you re-project it.

Watch the video Define Projections for more details.

In this example Statewide Soils data was received but it's projected in IDTM.

Only the data for an individual county is needed and you need to reproject it to match all your County State Plane data.

I have already clipped the statewide layer to Gooding's county boundary.

Watch the video Clip to learn how to do that task.

Open ArcToolbox if it isn't already open.

You'll find the project tool in the Data Management Tools toolbox and then the Projection and Transformation toolset and then the Feature Toolset.

Double-click the Project tool.

This will open the Project dialog.

In the first field I'll use the drop-down and choose the soils\_clip layer.

The Output Dataset is automatically filled placing the new layer in the same folder as the Input data.

I'll rename the layer to more accurately reflect what it is.

In the 3<sup>rd</sup> field I'll browse for an existing layer with the correct state plane projection parameters.

By doing it this way you eliminate the chances of errors.

Click Import.

Then browse for the known layer.

Click Ok

Since the Datum for the IDTM layer was NAD27 and State Plane is NAD83 I'll need to select a Geographic Transformation.

In this case I'll choose NAD27 to NAD83 NADCON.

Click OK

The new reprojected layer is automatically added to the table of contents.

This concludes reprojecting.